

REMARKS

In this communication, Applicants have amended Claims 12, 16 and 21. The amendments for Claims 12 and 21 are supported by the specification on pages 24 (lymphoid cells), 27 (enhanced CTL activity toward antigen), and 6-7 (targeting of cancer cells). Further, Claim 16 was amended to correct an informality identified in the Office Action. Withdrawal of the corresponding objection is respectfully requested. No prohibited new matter has been introduced.

Claims 1-12, 14-16, 18-19 and 20-23 are pending. Applicants respectfully request allowance of all pending claims.

Claims 12, 14-16, 18-19 and 21-23 stand rejected as allegedly lacking written description under 35 U.S.C. §112, first paragraph. Applicants respectfully traverse the rejection as applied to amended Claims 12 and 21, and as it may apply to the pending Claims 14-16, 18-19 and 22-23, for the reasons as set forth below.

At the onset, the fundamental factual inquiry for written description is whether the specification conveys with reasonable clarity to those skilled in the art that as of the filing date sought, Applicants were in possession of the invention as now claimed. See, e.g., Vas-Cath, Inc. v. Mahurkar, 935 F.2d at 1563-64, 19 USPQ2d at 1117. Thus, for the instant specification, Applicants must, for example, convey possession of a cellular composition comprising lymphoid cells, such that when said cells are incubated with an anti-MIF antibody and an antigen specific to a tumor, such lymphoid cells exhibit an enhanced response to the antigen.

The Office Action suggests that Applicants have not taught sufficient representative species for the cells and tumor antigens as claimed, nor identified distinguishing characteristics such that the skilled artisan would readily identify the claimed product over other products. Moreover, the Action suggests that the specification disclosure is limited to cellular compositions

comprising CD8⁺ T-cells, an anti-MIF antibody, and a tumor antigen derived from thymomas.

With respect to the suggestion that Applicants' invention is limited CD8⁺ T-cells, the specification clearly demonstrates that in addition to CD8⁺ T-cells, unfractionated spleen cells were used to demonstrate the instant inventive concept (e.g., page 27, lines 15-22 and FIG. 3). The skilled artisan would know that such an unfractionated sample would necessarily possess B-cells, macrophages, dendritic cells, as well as CD4⁺ and CD8⁺ T-cells (see, e.g., Roitt, et al., in Immunology, CPT.3, pp. 3.3-3.4, Gower Medical Publishing, New York, NY (1985)). Further, as recited on page 28, lines 5-7, target tumors were infiltrated by CD8⁺ **and** CD4⁺ cells following anti-MIF treatment. Therefore, contrary to the suggestion as alleged in the Office Action regarding the specification as being limited to disclosing only CD8⁺ cells, Applicants would offer that the specification is not so limited.

The Office Action also states, in relevant part, that the written description requirement may be met by sufficient description of a representative number of species by, *inter alia*, identifying characteristics. For example, the Action suggests that such can be evidenced by "structure or other physical and/or chemical properties, by functional characteristics, coupled with a known or disclosed correlation between function and structure...sufficient to show the Applicant was in possession of the claimed genus." University of California v. Eli Lilly and Co., 119 F.3d at 1568, 43 USPQ2d at 1398. The use of the Eli Lilly case in the Office Action for the present set of facts may be inapposite, as the holdings in that case are generally related to claims drawn to chemical materials (e.g., cDNA). Nevertheless, the instant claims define cells that can be distinguished from others, since "lymphoid" identifies cellular elements that are part of the adaptive immune system (i.e., function). Further, "lymphoid" inherently identifies morphology and origin (i.e., structure and physical characteristics) of the cells which comprise the genus as claimed. Thus, the claims, including amended Claim 12, do not embrace any and all cell types

outside of the putative genus as taught.

Respectfully, “[i]f a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing, even if [not] every nuance is explicitly described in the specification, then the adequate written description requirement is met.” In re Alton, 76 F.3d at 1168, 37 USPQ2d at 1578. Regarding the tumor antigens, Applicants are not claiming invention of said antigens. Nevertheless, as one of skill in the art would know that a tumor antigen refers to any cell surface antigen of a tumor that does not occur on normal cells of the same tissue origin (to include overexpression of endogenous gene products), from the totality of the instant specification, it would have been understood by the skilled artisan that conditioned cellular compositions which exhibit the claimed response toward such an antigen was in fact in the possession of the Applicants. Further, at the time the instant invention was filed, the skilled artisan would understand that certain tumors express select antigens (e.g., PSA and prostate), while others possess antigens which may be identified with multiple tumors (e.g., CD5 and cell malignancies), all of which should function in the manner as taught in the instant disclosure. The Office Action fails to cogently explain why one of skill in the art would not visualize or recognize the identity of members of the genus for tumor antigens since the skilled artisan would know what a tumor antigen is (including tumor antigen structures) within the context of the instant invention.

Applicants maintain that the same arguments hold for Claims 21-23, since immune cells would include, at minimum, all cells as described for the unfractionated spleen cells above. Further, cancer cells would be understood in a similar manner as the tumor antigens described above, and for similar reasons, one of skill in the art would visualize or recognize the identity of members of the putative genus. Thus, the instant specification conveys to one of skill in the art possession of a cellular composition comprising lymphoid cells or immune cells, such that when

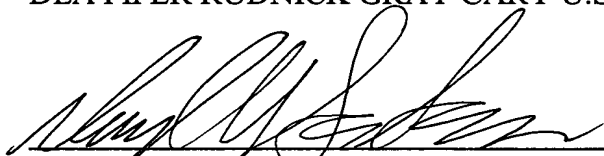
said cells are incubated with an anti-MIF antibody and an antigen specific to a tumor (or a cancer cell), such cells exhibit an enhanced response to the antigen (or target the cancer cell).

Therefore, Applicants respectfully request that the rejection as may be applied to amended Claims 12 and 21, including dependent Claims 14-16, 18-19 and 22-23, be withdrawn for the reasons as set forth above.

In light of the above, Applicants submit that this application is now in condition for allowance and therefore respectfully request favorable consideration. If any issues remain which the Examiner feels may be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact Applicants' undersigned representative at the number below.

Respectfully submitted,

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